

Professor James A. Needham of Cornell spent nearly two months studying the metamorphosis of the Cuban dragonflies in the ponds in the Garden and was delighted with the results of his trip. Aside from this the Harvard College Fellowships for work at Soledad were held by Charles William Heimsch and Elso Sterrenberg Barghoorn. Doctor Harold E. Senn of the University of Virginia, holding a National Research Council Fellowship at Harvard University, also spent some months at the Garden preparing cytological material of flowers of many species of Acacieae. Doctor David E. Davis went to Soledad early last spring, aided by an anonymous friend of the Garden, to continue his studies of the breeding habits of the Ani, *Crotophaga*, and is still down there. Doctor Barbour visited the Garden as usual in February, and Doctor Merrill in March.

Up to the end of 1937 approximately 700 species were added to the living collections, these being received by gift and in exchange from a great variety of sources from the tropical and subtropical regions of both hemispheres. The planting list at the end of the year shows approximately 2750 species and varieties actually in cultivation at Soledad.

Publications. — The usual issues of the Journal and the Bulletin of Popular Information were prepared and regularly issued. Again as usual, a number of technical, semitechnical, and popular articles written by staff members were published in standard serials. The Merrill-Walker Bibliography of Eastern Asiatic Botany mentioned in the last annual report, was issued in May 1938. It is the most extensive publication issued during the year, comprising 719 quarto pages. Second in importance is Mrs. Susan Delano McKelvey's comprehensive treatment of the species of *Yucca* of the southwestern United States, part 1, a small quarto of 150 pages, beautifully printed on Worthy permanent paper, illustrated by 80 collotype plates. This was issued as a special publication of the Arnold Arboretum in a limited edition of 325 copies, publication being rendered possible by the author's generous offer to meet a part of the printing costs, particularly the plates. This appeared in June 1938.

Bibliography of the Published Writings of the Staff and Students July 1, 1937 — June 30, 1938

ALLEN, C. K. Studies in the Lauraceae. I. Chinese and Indo-Chinese species of *Litsea*, *Neolitsea* and *Actinodaphne*. Ann. Missouri Bot. Gard. 25: 361-434. 1938.

- BAILEY, I. W. Cell wall structure of higher plants. *Ind. Eng. Chem.* **30**: 40-47, 27 *fig.* 1938.
- & KERR, T. The structural variability of the secondary wall as revealed by "lignin" residues. *Jour. Arnold Arb.* **18**: 261-272, *pl.* 211-214. 1937.
- & VESTAL, M. R. The orientation of cellulose in the secondary wall of tracheary cells. *Jour. Arnold Arb.* **18**: 185-195, *pl.* 206-208, 3 *fig.* 1937.
- & VESTAL, M. R. The significance of certain wood-destroying fungi in the study of the enzymatic hydrolysis of cellulose. *Jour. Arnold Arb.* **18**: 196-205, *pl.* 209-210, 3 *fig.* 1937.
- CHEN, L. New species of *Bauhinia* from China. *Jour. Arnold Arb.* **19**: 129-133. 1938.
- CREAGER, D. B. The *Cephalosporium* disease of elms. *Contrib. Arnold Arb.* **10**: 1-91, *pl.* 1-16, 4 *fig.* 1937.
- *Phytophthora* crown rot of dogwood. *Jour. Arnold Arb.* **18**: 344-348, *pl.* 216. 1937.
- CROIZAT, L. Di alcune osservazioni suggerite dalla classificazione corrente del genere *Euphorbia* L. *Rev. Arg. Agron.* **4**: 223-237, *fig.* 1937.
- On the classification of *Euphorbia*. II. How should the cyathium be interpreted? *Bull. Torrey Bot. Club* **64**: 523-536. 1937.
- *Euphorbia* (*Diacanthium*) *Deightonii*, a new succulent from West Africa, with brief notes on some allied species. *Kew Bull.* **1938**: 53-59. 1938.
- *Euphorbiées africaines nouvelles ou peu connues: Elaeophorbia et Euphorbia, section Tekeanae.* *Bull. Jard. Bot. Bruxelles* **15**: 109-120. 1938.
- Identifying the lindens. *Am. Nurseryman* **66**(11): 3-4. 1937; **67**(2): 3-4 *fig.*, (4): 7-8, *fig.*, (6): 5-6, 2 *fig.*, (8): 5-6, 2 *fig.*, (10): 7-8, (12): 7-8. 1938.
- Mapping the Arboretum. *Arnold Arb. Bull. Pop. Inf. IV.* **6**: 23-26, *pl.* 4. 1938.
- A misinterpreted Formosan species, *Euphorbia calonesiaca*, spec. nov. *Jour. Arnold Arb.* **19**: 97-98. 1938.
- Notes on Chinese *Euphorbiaceae*. *Jour. Arnold Arb.* **19**: 134-148. 1938.
- Notes on *Euphorbiaceae*, with a new genus and a new subtribe of the *Euphorbieae*. *Philip. Jour. Sci.* **64**: 397-411, *pl.* 1, *fig.* 1. 1937.
- Une nouvelle espèce de *Kalanchoe* du Mozambique. *Bull. Jard. Bot. Bruxelles* **14**: 363-366, *pl.* 9, *fig.* 1937.
- On the prickles and thorns of *Euphorbia*. *Desert* **9**: 127-128, 132-134. 1937.
- *Tithymalus* or *Pedilanthus*? Nomenclatural considerations, notes, new names and combinations. *Am. Jour. Bot.* **24**: 702-704. 1937.
- FAULL, J. H. *Pucciniastrum* on *Epilobium* and *Abies*. *Jour. Arnold Arb.* **19**: 163-173. 1938.
- FREEMAN, F. L. The variations of *Psoralea psoralioides*. *Rhodora* **39**: 425-428. 1937.

- JOHNSTON, I. M. Notes on some *Astragalus* species of Ecuador and Peru. *Jour. Arnold Arb.* **19**: 88-96. 1938.
- Some undescribed species from Mexico and Guatemala. *Jour. Arnold Arb.* **19**: 117-128. 1938.
- JONES, G. N. & PENNELL, F. W. A new Indian paint-brush from Mount Rainier. *Proc. Biol. Soc. Wash.* **50**: 207-209. 1937.
- KOBUSKI, C. E. Photomicrographic reproductions. Meriden, Conn. Full-tone collotype for scientific reproduction, suppl. 9, 2 *pl.* 1937.
- Studies in Theaceae. III. *Eurya* subgenera *Euryodes* and *Penteurya*. *Ann. Missouri Bot. Gard.* **25**: 299-359. 1938.
- LOTT, H. J. Nomenclatural notes on *Hypericum*. *Jour. Arnold Arb.* **19**: 149-152. 1938.
- MCKELVEY, MRS. S. D. *Yuccas* of the southwestern United States. I. Jamaica Plain, Mass. 1938. 1-150, 80 *pl.*, *maps.* 1938.
- MERRILL, E. D. Domesticated plants in relation to the diffusion of culture. *Early Man* 277-284. 1937.
- Domesticated plants in relation to the diffusion of culture. *Bot. Rev.* **4**: 1-20. 1938.
- The Maria Moors Cabot foundation for botanical research at Harvard University. *Sci. Monthly* **45**: 276-281, 7 *fig.* 1937.
- *Miscellanea sinensia*. *Sunyatsenia* **3**: 246-262, *pl.* 32. 1937.
- *Myrtaceae*, in E. Irmscher, *Beiträge zur Kenntnis der Flora von Borneo*. *Mitt. Inst. Allgem. Bot. Hamburg* **7**: 269. 1937.
- *Rubiaceae*, in E. Irmscher, *Beiträge zur Kenntnis der Flora von Borneo*. *Mitt. Inst. Allgem. Bot. Hamburg* **7**: 270-301. 1937.
- Nathaniel Lord Britton. *Year Book Am. Philos. Soc.* 341-343. 1937 (1938).
- New or noteworthy Indo-Chinese plants. *Jour. Arnold Arb.* **19**: 21-70, 3 *fig.* 1938.
- New Sumatran plants. III. *Pap. Michigan Acad. Sci.* **23**: 177-202. 1937 (1938).
- Problems in plant nomenclature. *Monthly Bull. Hort. Soc. N. Y.* Dec. 9-10, 14-15. 1937.
- *Razumovia* Sprengel versus *Centranthera* R. Brown. *Bull. Torrey Bot. Club* **64**: 589-598. 1937.
- On the significance of certain oriental plant names in relation to introduced species. *Proc. Am. Philos. Soc.* **78**: 111-146. 1937.
- *Suganda*. *Herbarist* **4**: 5-9, 1 *pl.* 1938.
- & METCALF, F. P. Systematic notes on Hainan plants including new species. II. *Lingnan Sci. Jour.* **16**: 389-407, *fig.* 1-5. 1937.
- & PERRY, L. M. On the Indo-Chinese species of *Syzygium* Gaertner. *Jour. Arnold Arb.* **19**: 99-116. 1938.
- & PERRY, L. M. Reinstatement and revision of *Cleistocalyx* Blume (including *Acicalyptus* A. Gray), a valid genus of the *Myrtaceae*. *Jour. Arnold Arb.* **18**: 322-343, *pl.* 215. 1937.
- & PERRY, L. M. A synopsis of *Acmena* DC., a valid genus of the *Myrtaceae*. *Jour. Arnold Arb.* **19**: 1-20. 1938.
- & WALKER, E. H. A bibliography of eastern Asiatic botany. Jamaica Plain, Mass. i-xlii. 1-719. 2 *maps.* 1938.

- PALMER, E. J. *Crataegus*, in E. J. Dole, *Flora of Vermont*, ed. 3 pp. 151-155. Burlington, Vt. 1937.
- PERRY, L. M. Notes on *Silphium*. *Rhodora* **39**: 281-297. 1937.
- RAUP, H. M. Botanical studies in the Black Rock forest. *Black Rock For. Bull.* **7**: i-vi, 1-161, *pl. 1-11, fig. 1-9, map.* 1938.
- REHDER, A. Index to notes on the ligneous plants described by H. Léveillé from eastern Asia. *Jour. Arnold Arb.* **18**: 278-321. 1937.
- New species, varieties and combinations from the herbarium and the collections of the Arnold Arboretum. *Jour. Arnold Arb.* **19**: 71-87, *pl. 217-218.* 1938.
- Notes on the ligneous plants described by H. Léveillé from eastern Asia. *Jour. Arnold Arb.* **18**: 206-257, 273-277. 1937.
- Origin of the name *Camellia*. *Horticulture* **16**: 244. 1938.
- SAX, K. Chromosome behavior and nuclear development in *Tradescantia*. *Genetics*, **22**: 523-533. 1937.
- SENN, H. A. Cytological evidence on the status of the genus *Chamaecrista* Moench. *Jour. Arnold Arb.* **19**: 153-157, *fig.* 1938.
- TUCKER, E. M. Bibliographical notes. Andrews, H. C. *Roses*. — Wallich, N. *Tentamen florum napalensis illustratae*. *Jour. Arnold Arb.* **18**: 258-260. 1937.
- Plants and the men whose names they commemorate. *Arnold Arb. Bull. Pop. Inf. IV.* **6**: 43-50, *2 portrs.* 1938.
- WALKER, R. I. The effect of colchicine on somatic cells of *Tradescantia paludosa*. *Jour. Arnold Arb.* **19**: 158-162, *pl. 219-220.* 1938.
- WYMAN, D. *Albizzia Julibrissin rosea*. *Gard. Chron. Amer.* **41**: 259-260, *2 fig.* 1937.
- Autumn color in New England. *Gard. Chron.* **102**: 179-180, *2 fig.* 1937.
- Broad-leaved evergreens, and how to know them. *Amer. Home* **19**(5): 24-25, 106-111, *figs.* 1938.
- Crabapples at the Arnold Arboretum. *Harvard Alumni Bull.* **40**: 859-860, *2 fig.* 1938.
- A few notes concerning azaleas. *Bull. Gard. Club Amer.*, ser. 6, no. 8: 49-54. 1938.
- Here are lilacs. *Real Gardening* **1**(2): 16-22. 1938.
- How well do you know your conifers? *Amer. Home* **18**(4): 39-41, 110, 112, *12 fig.* 1937.
- The Larz Anderson collection of Japanese dwarf trees. *Arnold Arb. Bull. Pop. Inf. IV.* **6**: 31-41, *3 pl.* 1938.
- Lilacs at the Arnold Arboretum. *Harvard Alumni Bull.* **40**: 919-922, *2 figs.* 1938.
- The order of bloom of woody trees and shrubs. *Morris Arb. Bull.* **1**: 106-109. 1937.
- Spring rushes on! *Arnold Arb. Bull. Pop. Inf. IV.* **6**: 19-22, *1 pl.* 1938.
- This spring at the Arboretum. *Arnold Arb. Bull. Pop. Inf. IV.* **6**: 15-18, *1 pl.* 1938.
- Viburnums. *Arnold Arb. Bull. Pop. Inf. IV.* **5**: 73-82, *2 pl.* 1937.

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